

THE WALT DISNEY STUDIOS. PROCESS LABORATORY

HABS No. CA-2639A

(Buena Vista Imaging)

(The Visual Effects Building)

(Building 15)

Corner of Buena Vista Street and Alameda Avenue Street  
Burbank

Los Angeles County

California

HABS

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19-BURB,

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PHOTOGRAPHS

WRITTEN HISTORICAL AND DESCRIPTIVE DATA

HISTORIC AMERICAN BUILDINGS SURVEY

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THE WALT DISNEY STUDIOS, PROCESS LABORATORY  
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Location: Building 15 on Disney Studios, at the corner of Alameda Avenue and Buena Vista Street, in Burbank, Los Angeles County, California. Located at the north end of Minnie Street, in the northern portion of the studios, the building faces south, where it is connected by a breezeway to the Ink and Paint Building.

USGS Burbank Quadrangle, Universal Transverse  
Mercator Coordinates: 11.377890.3780280

Present Owner: The Walt Disney Company

Present Occupant: Vacant

Present Use: Awaiting demolition. The building is to be replaced by a 275,000 square-foot office building designed for the core film production unit, which had been forced from the production area of the studio complex by space constraints. While all options were considered, new construction was found to be the only method by which code requirements could be satisfied. The proposed new building, by the architectural firm of Venturi Scott Brown, is designed to be sensitive to the original master plan for the complex in color, scale and proportion.

Significance: The Process Lab is part of the Disney Studio complex, the buildings of which were built in a single style during the early 1940s. The Laboratory was the site of the development and implementation of a variety of special effects used in Disney live-action and animated films, many of which were developed and patented by the studio. Among those to first work in the Process Laboratory were Ub Iwerks, one of the first engineers to work for Walt Disney, and who was instrumental in the design of Disneyland and Walt Disney World, as well as Academy Award-winning engineer Eustace Lycett.

## PART I. HISTORICAL INFORMATION

### A. Physical History:

1. Date of Erection: 1940.

2. Architect:

Kern Weber (1889-1963). Mr. Weber was an European architect, interior designer and theatrical set designer. He designed the master plan for the studio complex, as well as the majority of the studio interiors.

3. Original occupant: Film Processing Laboratory

4. Subsequent occupants:

Optical Effects Department, Visual Effects Department, Buena Vista Imaging

5. Builder, contractor, suppliers:

F. Scott Crowhurst, Superintendent of Construction. Licensed Contractor No. 29360

James Lill, Structural Engineer. License No. 5339

Both Mr. Crowhurst and Mr. Lill were reportedly involved in the construction of the studio complex as a whole.

6. Alterations and Additions:

A number of alterations to the original design were made following the Process Lab's construction. Since 1959, partitions in the north-east portion of the first floor have been removed, and light traps and darkrooms added to the basement have necessitated alteration of its plan. At same point a service entrance on the east wall was filled with concrete block (photo CA-2639-A-12); in a number of cases windows were sealed by drywall and, in one case, covered by a storage cabinet (photo CA-2639-A-24; compare photo CA-2639-A-11). In addition, metal-encased glass panels and a metal-encased glass door were added to the south breezeway out to the first column (photo CA-2639-A-6). Acoustical tile was added to the ceilings of the first floor in several rooms.

### B. Historical Context:

The studios at which Walt Disney created his animation were originally located in Silver Lake, California, near Los Angeles, and in Hyperion, same miles to the south-west of the city. In the late 1930s, owing to the shortage of space at that facility as Disney's business expanded, plans for a new studio complex in Burbank were initiated; it was reported that despite Disney's successes in

feature-length animation in the 1930s, the move severely taxed the resources of the company. (Interview with David Smith)

The Process Laboratory was a separate building at the new facility. The lab, which was involved in the development of film and the creation of some special effects, came to specialize in the creation of machinery and techniques of standardizing the effects called for by Walt Disney. While character animators continued to draw the figures, the staff of the Process Lab, which was also known as the Special Effects Department, created many of the other objects around the characters:

"They are responsible for all water scenes; ocean, lake, river, or just plain mud puddle. They must create all moving props such as falling trees and rocks, or waterfalls or clouds of dust. They take care of shadows, big and little; fire and all the various effects of heat; all sorts of smoke, whether from a forest fire or a thin stream from an incense urn. They make the rain pour and the lightning flash."  
(Walt Disney Productions "Information" No. 4736)

It is reported that several of the special effects patented by the Disney studio, including a reflected-tin technique for showing ghosts, and the use of the multiplane camera, were developed within the Process Laboratory's walls. Eventually the studio created a machine shop, separate from the lab itself, to assemble the mechanisms devised by the Disney special-effects engineers.

Innovations continued to be developed at the process studio after the creation of the machine shop, especially involving the mixing of live-action and animated figures in the same film. Eustace Lycett, head of the Special Effects Department after founder Ub Iwerks, won two Academy Awards (in 1965 and 1972) for the traveling matte system used in *Mary Poppins* and *Bedknobs and Broomsticks*.

Disney's involvement in live-action movies called for efforts from the Special Effects department even as the call for animated special effects began to drop off. In the creation of the movie *The Black Hole*, the department was credited with the ability to "think up the answers before anyone was quite aware there would be a problem." The department changed its name to the Visual Effects Department and then to Buena Vista Imaging to reflect their new role.

## PART II. ARCHITECTURAL INFORMATION

### A. General Statement:

#### 1. Architectural character:

The building is a modest structure of concrete and masonry units with some moderne detailing, designed as a harmonious part of the studio complex (see photo CA-2639-A-2).

2. Condition of fabric:

Varied. Some portions of the building have been removed in expectation of demolition, and wide gaps exist in the roof weatherproofing; portions of the exterior walls, however, and sections of the interior are in excellent condition.

B. Description of Exterior:

1. Overall dimensions:

65'-3" x 107'-0". The building is one story, with a basement and rooftop penthouse. The main entrance faces south and is connected to the Ink and Paint Building by a brick and concrete breezeway.

2. Foundations:

Concrete foundation walls 12" thick in accessible locations and according to plans. According to original plans, perimeter foundation walls utilize a spread footing 2'-0" wide on the north and south walls, and 2'-3" on the east and west. The support columns have support footings of variable sizes.

3. Walls:

A mixture of masonry units and concrete detailing. The masonry is largely composed of two types of units: 9" x 3-1/4" fired clay units called "Groutlock Brick" in the designs, and 11-1/2" x 3-1/4" fired clay units designed to give the appearance of pairs of Roman bricks (supplemental photo G). Both types are laid in stretcher bond generally, though the Roman brick units are occasionally laid in soldier courses to form belt courses at the cornice and above the door and window framing. In one area, where a door had been sealed off, concrete block is used as an infill material. Belt courses of concrete are also evident as a frieze element and an accent to the window sills. Painted plaster is used as a finishing material over the concrete block and over the exterior walls of the rooftop penthouse.

Early photos indicate that the exterior masonry was originally unpainted. At the time of survey the color scheme was found to be: on the lower walls, an orange-brown; on the upper walls, tan; on doors and trim, and the upper concrete belt course, a forest green.

4. Structural system, framing:

The foundation walls and exterior masonry walls are load bearing. A system of steel-reinforced concrete beams and joists which form the first-floor framing are supported by steel-reinforced concrete columns. Steel columns carry the load of the roof framing down to the beams of the first floor, and the roof framing itself is composed of steel I-beams and wood members.

5. Porches, stoops, balconies, bulkheads:

A masonry and concrete breezeway connects the Process Laboratory to the Ink and Paint building (photo CA-2639-A-7). The columns of the breezeway are composed of the Roman brick masonry units, and the roof of the structure is a slab of concrete, running north-south between the two buildings and sloped towards the east to shed rainwater.

In addition, on the north side of the building is a loading platform. The platform has two steps down to grade at its west end, and a staircase down to a basement entrance to the east (photo CA-2639-A-9). A ramp down to the grade extends north from the loading platform. The platform is composed of concrete, with a metallic edge angle, and metal rails at the staircase.

6. Chimneys: Not applicable.

7. Openings:

a. Doorways and doors:

The main entrance to the building, on its south wall, is comprised of a metal-encased glass double door, positioned between two columns of the breezeway to the Ink and Paint Building (photo CA-2639-A-6). Metal-encased glass panels to either side of the door connect those columns to the south facade of the building itself, forming an enclosed portico for the building. The panels and glass doors are probably later additions to the building. At the building facade within the portico is another, earlier, set of double doors with inset full-frame glass panels.

Another set of double doors is placed within a portico on the loading dock on the north facade, these with inset glass panels approximately 1'-6" x 2'-6" in dimension (photo CA-2639-A-3). The portico is 3' 8-1/2" deep and is flanked by pilasters of Roman brick. Another door, also on the loading platform, is situated to the west of the double doors. Although the interior of this door has been plastered over, the exterior frame, the inset glass panel, and the push plate all still exist on the exterior.

b. Windows and shutters:

Windows on the exterior of the building are of uniform size; each is a twelve-light metal casement window (4H x 3W), 5'-4" x 4'-9" in dimension, with one operable casement in the lowest center light (photo CA-2639-A-3). The lintels of the windows are contiguous with that of the building's doors, and the sills are a uniform 3'-6" above the top of the foundation walls. The detailing of the windows is simple: the lintel is the soldier course which circles three-quarters of the building, and the sill is one of two treatments:

in areas where a concrete belt course circles the building at that level, it comprises the sill of the window; elsewhere, brick headers are used to form the sill.

The windows on the west facade of the building are shaded by louvered, remotely operated awnings (photo CA-2639-A-2, supplemental photo B). The awnings are composed of horizontally-hung metal strips which can be raised or lowered by a mechanism to allow the passage of light. The mechanism, a lever attached to all the strips individually, is attached by a metal cord to a rotating rod from within the building, by which it can be manually controlled.

#### 8. Roof:

##### a. Shape, covering:

The roof of the Process Building is composed of tar paper over wood sheathing and framing. It has a rectangular central flat platform, on which the penthouse sits. From the platform the roof slopes towards the walls at a shallow pitch. At the parapet walls which form the cornice of the walls, scuppers direct water to two roof drains in the north-east and north-west corners of the building. Plans indicate that the roof of the penthouse was also tar paper-coated wood, with a scupper leading to a single drain which emptied onto the roof.

##### b. Cornice, eaves:

The cornice of the building is a simple alteration of the handling of the walls' standard materials. A concrete belt course separates the main body of the walls from the upper portion, but only the detailing of the concrete band and a soldier course of Roman brick units at the very crown of the walls distinguishes this section of the walls from the lower.

##### c. Dormers, cupolas, towers: Not applicable.

#### C. Description of Interior:

##### 1. Floor Plans:

In the basement of the Process Lab, the plan has developed organically according to the needs of the building's users. What had been, in the original plans, a fairly open floor with some provisions for machinery and a small number of darkrooms, is now a maze of projection rooms, darkrooms, chemical storage rooms and general storage rooms. Areas devoted to ventilation and climate control add to the complexity of the plan.

The plan of the first floor is more rigorously logical and comprehensible. It is, in general, a ring of hallways and relatively long, open rooms surrounding a core of offices. On all but the east side of the building, this ring is itself surrounded by a set of offices, entrance porticos, and a stairway, which as a group fill out the floor plate.

## 2. Stairways:

Two stairways exist in the Process Laboratory. One is located on the interior, on the west side of the building (photo CA-2639-A-20). Leading down from the main corridor of the first floor, the staircase executes a half-turn at its midpoint with a landing in that half-space. There are twenty 6-1/2" risers and 11" treads, with inset non-skid nosings.

At the north end of the building there is another stairway, leading from the north-west corner of the building down to a door into the basement (supplemental photo J). This staircase is a straight run of seventeen stairs, with 7-1/4" risers and 10-1/2" treads.

## 3. Flooring:

Throughout the majority of the first floor, the flooring material used is linoleum in sheet form. In two offices on the west side of the building, cut pile carpeting is used.

In the basement, the vast majority of the floor is left as exposed concrete. In some areas, plywood planking is used to raise the finished floor above the concrete slab, however, and one room adjacent to the staircase has cut pile carpeting as its finished flooring.

## 4. Wall and ceiling finish:

The majority of walls are finished in painted plaster. The treatment which seems to be original is of rough plaster applied to gypsum "rock lath" panels which are regularly perforated with 1" holes to offer a key. A white coat of plaster is applied over the scratch coat and then painted. More recent partitions are finished in large gypsum panels which are directly painted. In the basement, most foundation walls are left as exposed concrete, and partitions are generally finished as above. In one room designated for chemical storage, stainless steel panels are applied to the wall surface as a wainscoting to protect the wall surface from splashes.

All ceilings of the first floor are finished by rough plaster applied to a metal lath, then covered by a white coat of plaster which is then painted. In some rooms acoustical tiles have been added over this finish. In the basement, all ceilings are left as bare concrete.



## 5. Openings:

### a. Doorways and doors:

A variety of materials are used on the doors of the Process Laboratory. Solid wood, hollow-core wood, and kalamein (metal-coated wood) doors can be found throughout the building. Doors in the exterior walls have inset wire glass panels of varying size. Those on the interior exhibit such characteristics as louvered vents, light-tight metal-encased vents, and a variety of hardware; a set of double doors, a Dutch door and a light-tight revolving door are also evident (supplemental photo H). In most cases the detailing of the door frame is a simple ovolo from the wall to the door trim, but doors in partitions added later do show some casing. Two doors to the exterior which were indicated in early plans had been covered on the interior by plaster work: on the north wall, the door is still evident on the exterior, but another door on the east wall apparently had been replaced by concrete block.

### b. Windows:

On the interior the windows exhibit a uniform appearance. The framing is very simple, with no decorative trim save a small curvature between the wall surface and the interior surface of the window frame. On the west wall, a rotating handle below the window opening operates the awning system described above in II.B.7.b. On the south wall a window which is still unaltered on the exterior, has been sealed with drywall and covered by a storage cabinet on the interior. The sealing and plastering over of windows is also used in one of the windows on each of the other walls.

Natural lighting was not exploited to a measurable degree in the Process lab, probably due to the sensitive nature of the work to which the building was dedicated. Rooms along the north, west and south exterior walls of the building were well-lighted by the windows, but no effort was made to transmit this light past those rooms into the corridors and rooms within. In the basement, partitions and doors specifically designed to trap light, coupled with the lack of windows, allowed for total control of light within any room.

## 6. Decorative features and trim:

A vinyl cove base is found throughout the first floor and in a number of locations in the basement.

In the lobby of the first floor, a wood chair rail lines the north and west walls of the room (photo CA-2639-A-27).

## 7. Hardware:

Of the hardware present on the Process Laboratory, only a limited amount is of special interest. Along the west wall of the building, metal cranks situated below the window openings operate the mechanical louvered awnings outside. The handles to these cranks are similar in appearance to those used in some mechanical casement windows. Other hardware of the building is not noteworthy for unique design or use.

## 8. Mechanical equipment:

### a. Heating, air conditioning, ventilation:

Original climate control machinery provided by Johnson Service Co., of Milwaukee, Wisconsin, provides humidity and ventilation control for the building. The tanks, ventilation shaft openings, and control panel for the system are located in the southern portion of the basement (supplemental photo C, D, F). Several ventilation and climate control ducts pass through the basement and first floor to the plenum space below the roof for distribution, either to service areas on the first floor or for exterior ventilation.

Blowers in the rooftop penthouse manufactured by Buffalo Forge ventilate the building. Ventilation shafts collect within the roof structure into two main vents and then are expelled by the Buffalo blowers through vents in the penthouse wall.

Inside the building, the cameras used to create special effects are individually ventilated by fans inside the cameras. These are connected to small flexible shafts which lead up to the collecting vents within the ceiling (photo CA-2639-A-16).

### b. Lighting:

In general the Process Lab is lighted by florescent lamps integral to the suspended ceiling. In the basement, the florescent lamps are hung from the ceiling, and some areas have special darkroom lighting installed.

On the exterior, special switches control the floodlighting used at the doors (supplemental photo K). These switches are evident on a variety of the original buildings of the studio complex.

### c. Elevator:

At the north end of the basement is a manually-operated elevator which passes from the basement floor to the level of the loading platform on the exterior of the first floor (supplemental photo A, E). The lift mechanism, which is positioned adjacent to the elevator shaft in the basement, was manufactured by Beckworth Elevators (photo CA-2639-A-31, supplemental photo I). It is connected to

the elevator platform by cables, and is operated by a hand crank.

D. Site:

1. Relation to complex

It is of note that a swale exists adjacent to the west facade of the Process Lab, when such a feature is not evident in early photos of the site.

It is also noteworthy that gordenia bushes exist adjacent to the south and west facades, and that a tree of 10" chest-height diameter grows in the space between the south facade and the east-west walkway which runs between the Ink and Paint Building and the Process Laboratory (photo CA-2639-A-8).

PART III. SOURCES OF INFORMATION

A. Architectural Drawings:

From Robert Toor, Senior Facilities Engineer, Disney Studio Operations - Construction, of various dates from 1939 to 84.

B. Early Views:

From the Disney Archives, dated from 1940 to 50.

C. Interviews:

David Smith, Archivist. Disney Archives

D. Bibliography:

*Disney Animation: The Illusion of Life(?)*

Walt Disney Productions "Disney News" #21043 (1967)

"News from Walt Disney Productions" #29221 (1979)

"Work Done by the Special Effects Shop Under the Supervision of Robert Matthey"

Fry, Ron. *The Saga of Special Effects*. (1977)

Walt Disney Productions "Information" #4736 (1950)

"U. S. Patents: Walt Disney Productions, Ltd."

E. Supplemental Material:

Attached color photographic prints, and black and white prints,  
complement the material in this report.

PART IV. PROJECT INFORMATION

Project Manager:	Ricordo J. Viera, BCA
Project Assistants:	Richard Pounds, BCA Kevin Daly, BCA
Archival Assistance:	David Smith, Disney Archives
Drawings Assistance:	Robert Toor, Studio Operations - Construction
Photographic Services:	Tavo Olmos, Positive Image Photographic Services, Posadeno, CA
Sponsor:	The Disney Development Company André Tirmon, Project Manager

# HISTORIC AMERICAN BUILDING SURVEY

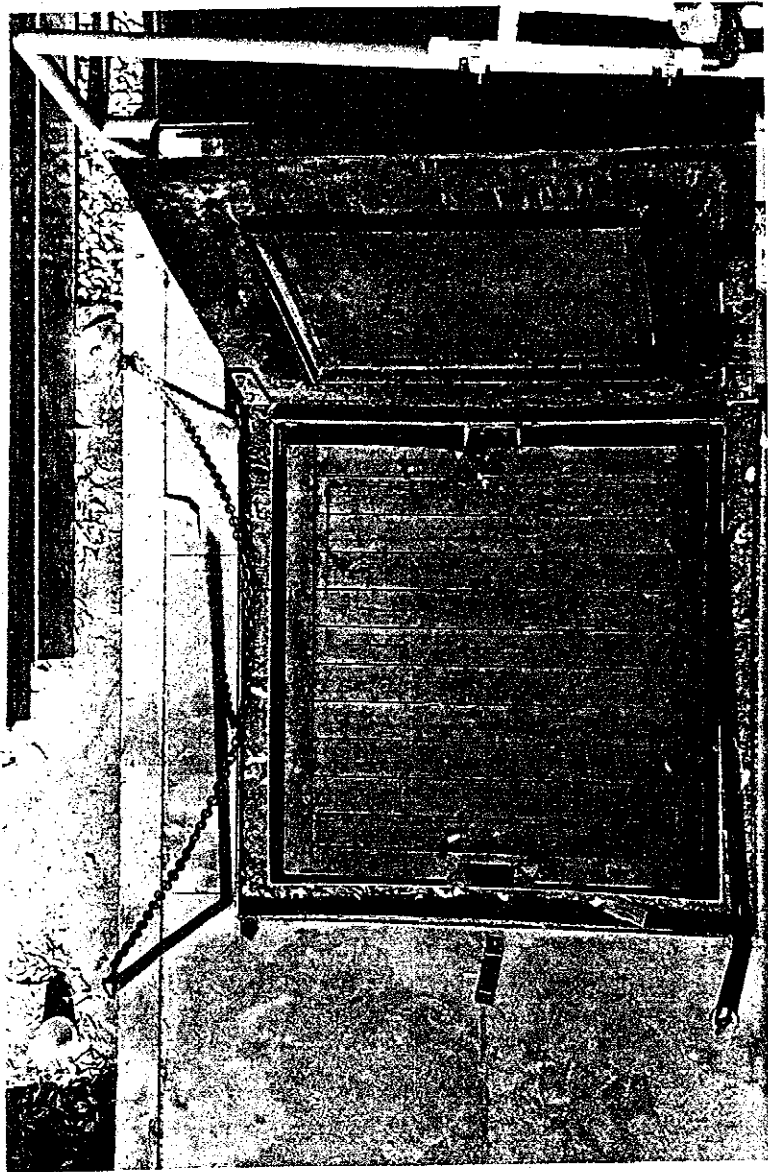
## ~~APPENDIX~~ ~~SUPPLEMENTAL PHOTOGRAPHS~~

THE WALT DISNEY STUDIOS,  
PROCESS LABORATORY  
Corner of Alameda Avenue and Buena Vista Street  
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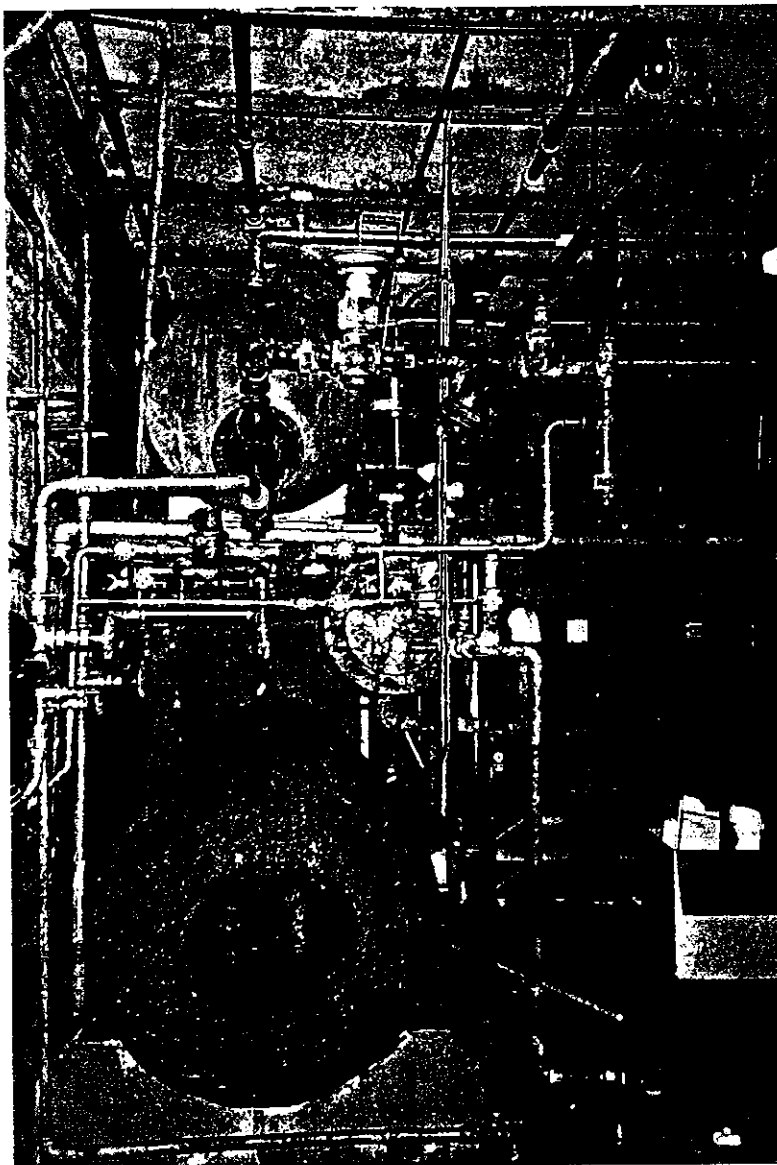
*SEE FIELD RECORDS  
FOR COLOR LAZER PLOTS.*



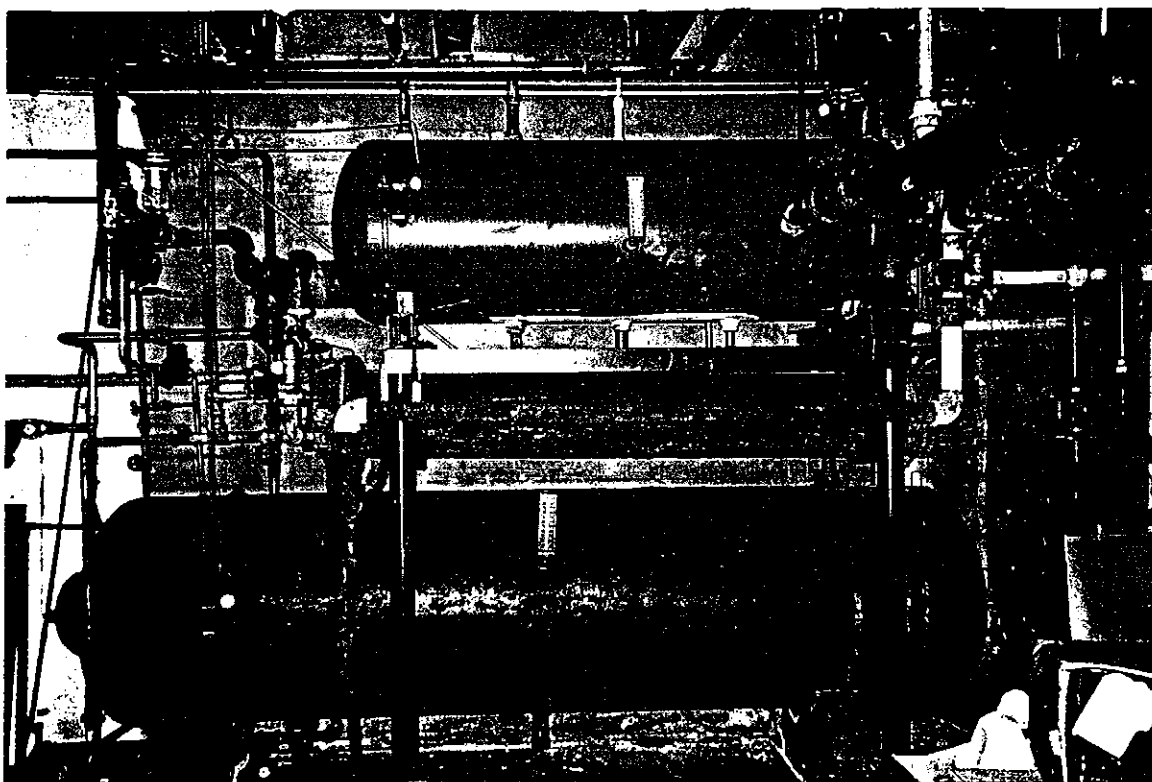
A-- Exterior elevator hatch and platform view



B-- Exterior sun shade view, facing east



C-- Basement interior storage tank view, facing south



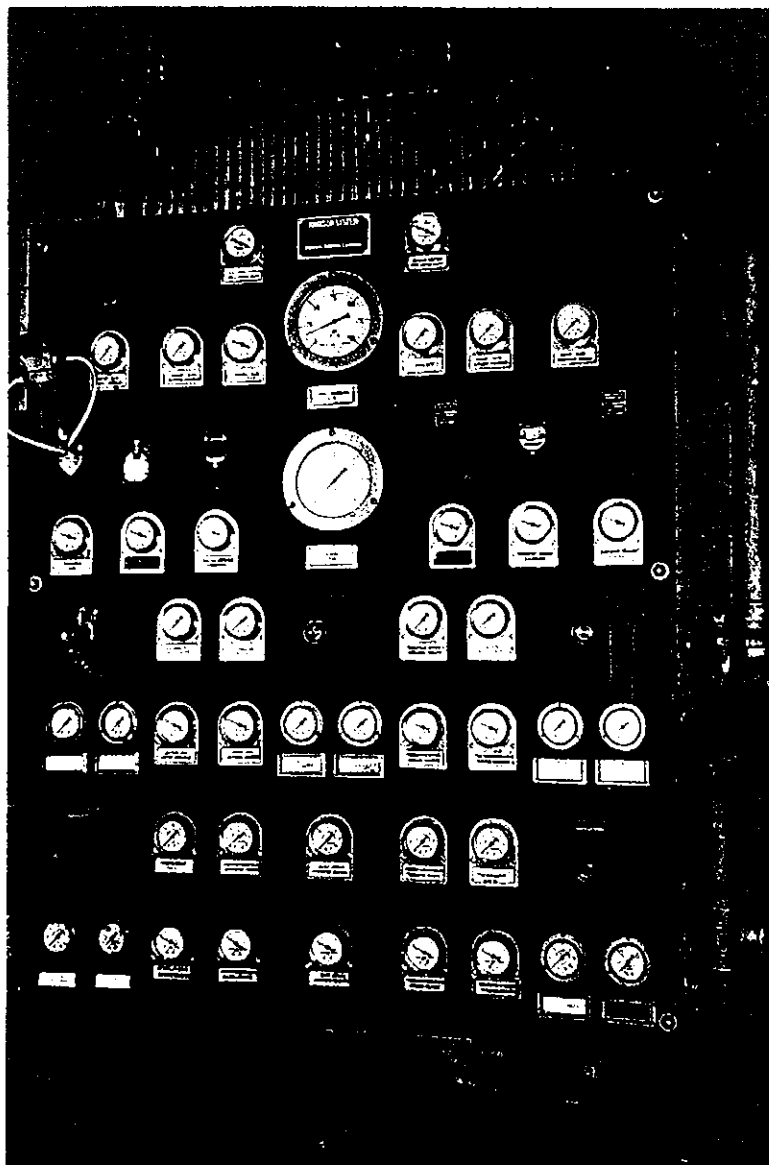
D-- Basement interior storage tanks view, facing east



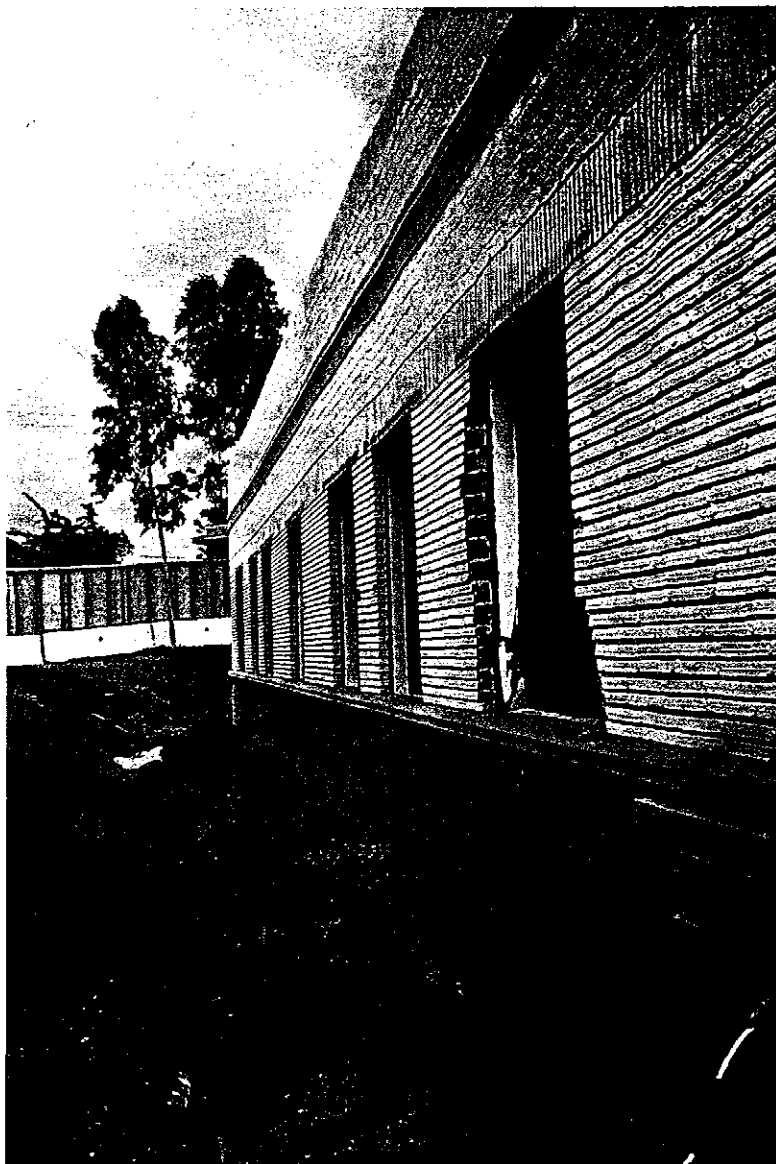


E-- Basement, elevator rail and cable detail, facing northwest

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F-- Basement, Johnson Service Company climate control panel view, facing south



G-- Exterior west side view, facing north



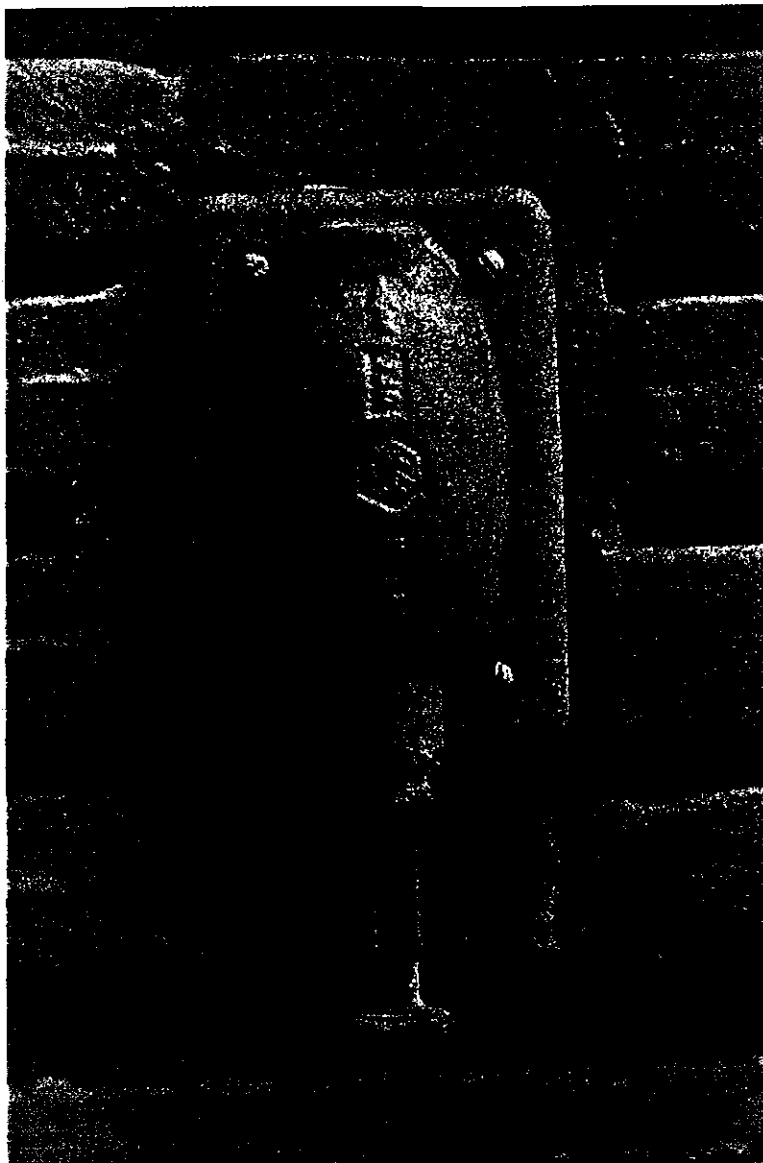
H-- Basement interior view, light-tight revolving door detail, facing north



I-- Basement interior elevator machinery view, facing north



J-- Exterior north wall view, facing southwest



K-- Exterior north wall detail, showing light switch, facing south